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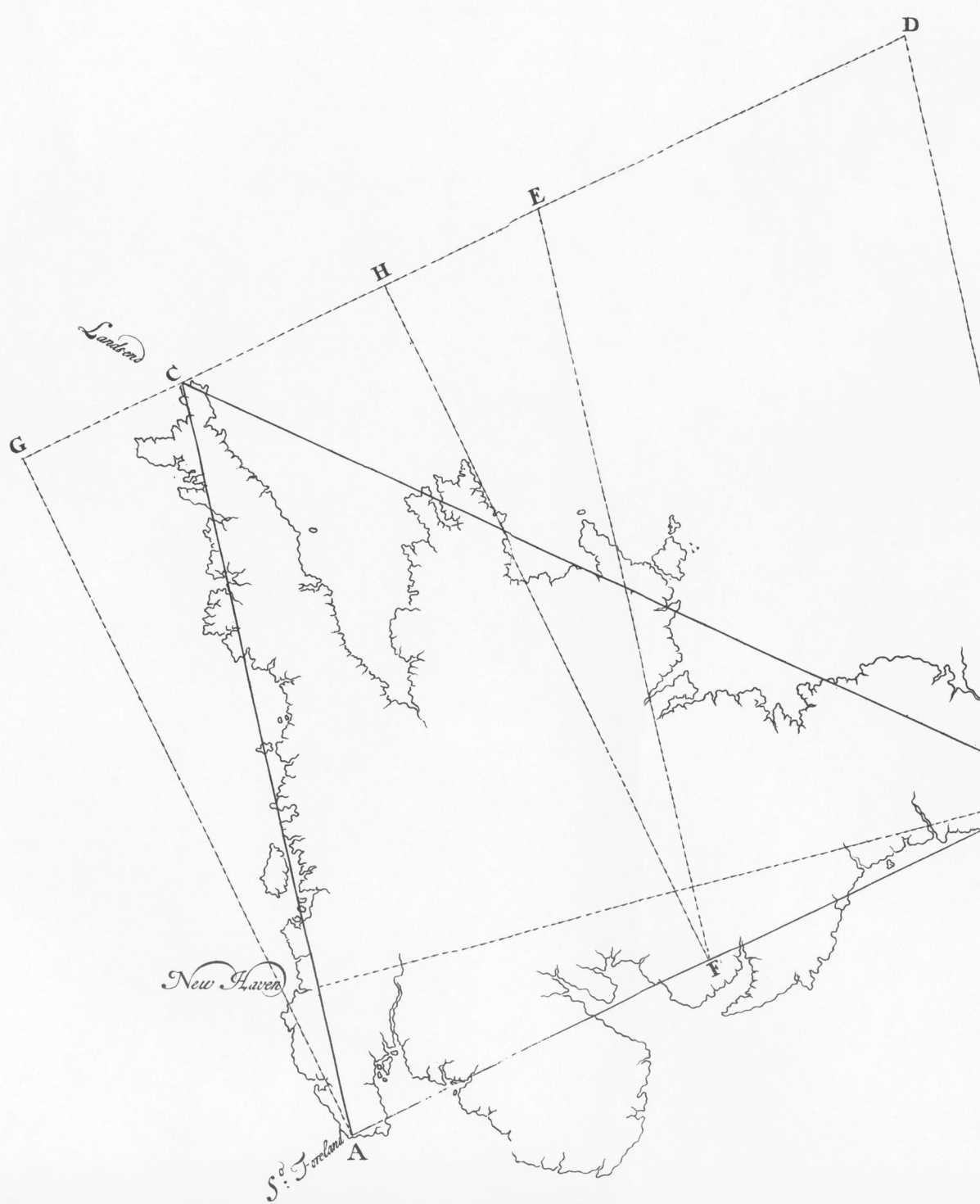
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I. *A Demonstration of the Number of Acres contained in England, or South-Britain; and the Use which may be made of it. By Dr. Nehemiah Grew, Fellow of the Royal Society, and of the College of Physicians.*

SEveral Persons, and some of great Abilities, have given us, as they have supposed, the just Number of Acres contained in *England, or South Britain*, or very near it. The Excellent Sir *William Petty* reckons about 28 Millions: Others, 29 Millions; others, a few more. But I humbly affirm, they have all been mistaken in under-reckoning.

And the reason of their mistake seems to have been, their reckoning only by the Maps; that is, by computed, and not by measured Miles; by which only the Number of Acres can be known.

I have seen an Account of the Number of Acres in each County: Which Account, whether taken from Dooms-Day Book, or from any other Registry, cannot be True. For tho' we have lost some Land, yet there is a great deal more now gained, which in the Conqueror's time lay under Sea. Within 120 Years, very much has been recovered out of the Seas, and maintained by Banks, in the Marshes and Fens of *Essex, Kent*, and the Isle of *Ely*. And in some Parts of *Lincolnshire*, the Land has gained of the Sea, 4 Miles in a direct Line from Land to Sea, in the memory of Men now Living.

Nor is it the Truer, for having been taken from any other Record : For if the Numbers of Acres, according to the said Account, in each Shire, be put together, they exceed not 39 Millions and a quarter : Which Number, tho' it comes much nearer to the Truth than any of the former, yet is a great deal short of it.

For however, according to vulgar Computation, *England*, or *South Britain*, is reckon'd in length but 305 Miles ; and in breadth, about 290 Miles : Nevertheless, it appears by an exact Wheel-Measure, That from *New Haven* in the *South* of *England* to *London*, are 56 measured Miles ; and that from thence by a strait Line continued to *Berwick* in the *North*, are 339 of the same measured Miles ; in all 395 measured Miles, the True length of *England*. And again, that from the *South Foreland* in the *East*, to the *Lands-end* in *Cornwall*, are about 367 Miles of the same Wheel-Measure, the True breadth of *England*.

This being known, it is easy without any laborious and costly Survey, to know also, how many Square Miles, and consequently how many Acres are contained in *England*, or *Great Britain* ; to wit, in the following manner.

If a Line be drawn on a Chart of *England*, from the *South Foreland* in *Kent* to *Berwick* ; and from the two *Ends* of this Line, two more Lines meeting at the *Lands End* in *Cornwal*, they will make the Triangle *ABC* : Which Triangle, in that it excludeth as much more of the Land, as it includeth of the Sea, as may answer the small Number of Miles obtained by the Curvity of the Roads ; it may therefore be allow'd to be equal to the *Area* of *England* or *South Britain*. See Tab. I.

Next, if to the Triangle *ABC*, another Similar and Equal Triangle *BCD* be added ; both together make the Rhomboid *ABDC*. Which being divided at *EF*, maketh the Rhomboids *ACEF*, and *BDEF*. Equal

one to another. One of which is therefore Equal to the Triangle  $ABC$ . And the Rectangle  $AGHF$ , standing upon the same Base, and between the same Parallel Lines with the Rhomboid  $ACEF$ , by the 35th of the 1st of *Euclide*, is Equal to the said  $ACEF$ : Equal to the Triangle  $ABC$ : Equal to the Area of *England*, or *South Britain*.

Now the length between *Berwick* and the South Foreland in *Kent*, being about 5 Miles more than between *Berwick* and *New Haven*, which is 395 Miles: Therefore the Line  $AB$ , may be taken for 400 Miles; and so the Line  $AF$ , for 200. And the Line  $AG$  being less by about 7 Miles, than between the South Foreland in *Kent*, and the Lands End in *Cornwall*, which is 367 Miles, the said  $AG$ , may be taken for 360 Miles. Therefore  $AG$ , 360, being multiply'd by  $AF$ , 200, produceth 72000 Square Miles: And 72000 being multiply'd by 640, the Number of Acres contained in one Square Mile, produceth 46 Millions and 80000, the Number of Acres contained in *England*, or *South Britain*.

Whence it appears,

First, that if the Province of *Holland* contains, as is computed, but one Million of Acres, then *England* is more, by a Fraction of 80000 Acres, than 45 times as big as *Holland*.

Next, if in the Province of *Holland*, containing but one Million of Acres, are two Millions and 400 Thousand Souls, or two Millions and 4 10ths, as they are said to be; then *England*, which contains 46 Millions of Acres, to be proportionably Populous, should have twice 46 Millions of People, and 4 10ths of 46; that is, about 110 Millions.

But to allow room enough for Persons of all Degrees under our *British* Monarchy, if *England* were half as Populous as *Holland*, with only 55 Millions, it were a good

good Proportion, and would be near 5 times our present Number : And about 22 times as many, as in the Province of *Holland*.

To People *England*, in a competent Time, with this Number ; there are sundry ways very practicable. By which, I have computed, the present Number may be doubled in 24 or 25 Years. And probably quadrupled in about 36 Years.

One of these Ways, tho' not the speediest, would be the introducing of Strangers : Yet to make use of this, or of any other Way, to multiply the People, before we have provided the Means of Employing them, (as was lately done) would be preposterous.

But when we shall once, in good earnest, mind our True Interest, in Employing, and Encouraging, every where, our own Hands, and the Hands of other Nations, as the *French* and *Dutch* do, in all the sorts of Husbandry, Manufactory, and Merchantry : When our Nobility and Gentry themselves, shall, as in some other Countries, be Examples in some or other of these Particulars : When we shall hereby be universally engag'd to Inclose, and to Improve, every Foot of our Land ; to make the utmost Use of all our Home Growths, above and under Ground ; and of all our Ports, (about 200 great and small,) more than in all the Kingdoms and States of *Europe* put together : And when *Scotland* and *Ireland*, shall both of them afterwards be Improved in like manner : When all Mens Heads and Hands shall be thus Employed, about some one Honest and Profitable Business ; as it will naturally promote every where Peace and Friendship among us ; so is it easy for any considering Man to foresee, how highly it will advance the *British* Monarchy and People, at Home and all over the World, in Beauty, Strength, and Glory.